



The Northwest Region

Idaho, Oregon, Washington

An Increasing Use of Fossil Fuels

The Northwest has the highest proportion of renewable electricity generation in the United States, primarily because of past federal investments in hydropower resources.

Although the Northwest currently uses relatively small amounts of fossil fuels for electric generation, the outlook for the next 15 years suggests that the use of these fuels will steadily grow as coal- and natural gas-fired generation are added. Because the region has limited coal production and small reserves of natural gas, most of the fossil-fuel requirements for this new capacity will be met by imports from other energy-producing states. The expanding base of fossil-fuel generation is also contributing to an increase in air emissions. Spurred by regional growth and rising energy demand, carbon dioxide emissions in Washington have increased 40 percent during the last 10 years.

The Promise of Non-Hydropower Renewables

The Northwest is taking steps to include non-hydropower renewables in its energy mix. The region currently has 520 megawatts of non-hydropower renewable energy, with a potential for much more. Most of the existing non-hydropower renewable energy comes from biomass-fired power plants. Conservative estimates have found that sufficient logging, mill, and agricultural residues are available to more than double the existing renewable capacity.

The region's geothermal resources could provide as much as 4,600 megawatts of electric generation at costs approaching those of coal-fired power plants. Three geologic areas in Washington have the potential to supply significant quantities of geothermal energy: the Cascade Mountain Range, the Northern Basin and Range, and the Snake River Plain.

There is also a very large wind resource potential to tap. The Idaho Department of Water Resources, Energy Division, is currently compiling wind power data, providing low interest loan programs in addition to the existing income tax deductions, and providing technical assistance. A 25-megawatt project recently came online in Umatilla County, Oregon.

The potential of the solar resource in southern Idaho and southeastern Oregon is excellent. The solar energy received in these areas is generally about 80 percent of that received in Phoenix, Arizona, one of the nation's best areas for solar energy. Recognizing its solar potential, Idaho adopted a rule that requires utilities to provide their remote customers with cost comparisons between extending a distribution line and installing a photovoltaic system. In fact, to stimulate greater use of off-grid photovoltaic systems, Idaho Power created a pilot program to lease photovoltaic systems to customers

Biomass power plants, such as the Kettle Falls, Idaho, wood-burning plant, comprise most of the non-hydropower renewable power in the Northwest. This plant produces 42.5 megawatts of power from lumber mill waste, which was formerly incinerated in burners that had no pollution controls.



George Parks, Washington Public Power Company

Large hydropower plants such as the Bonneville power plant on the Columbia River provide most of the Northwest's electricity. Although one benefit is low air emissions, these plants have adverse effects on the riparian ecosystems. To minimize these effects, most dams maintain a minimum flowrate of water through the dam. Many have installed fish ladders to aid in upstream migration and nets or other devices to divert fish from turbine intakes.



Bonneville Power Administration

with remote electricity needs.

Two municipalities in the Northwest have committed to the purchase of electricity from a diverse set of renewable resources. Salem Electric Cooperative reached a 5-year agreement with the Bonneville Power Administration to purchase enough electricity from new renewable resources to supply 17 percent of its total electric needs, at a price of 3.5 cents per kilowatt-hour. The renewables purchased include wind and geothermal and will displace energy previously provided by coal, natural gas, and nuclear sources. The remainder of Salem Electric's renewable energy (roughly 83 percent of its electricity) will come from hydroelectric resources.

The city of Portland, Oregon, through an agreement with Portland General Electric, is packaging power from a 25-megawatt wind project for sale to its city accounts. The city has contracted to purchase 11.25 million kilowatt-hours of wind energy — equivalent to 5 percent of its power — under a 5-year contract with the utility. The wind energy costs will be blended with lower "market-based" rates; the resulting "blended rate" will still be lower than the city's former contract rate.